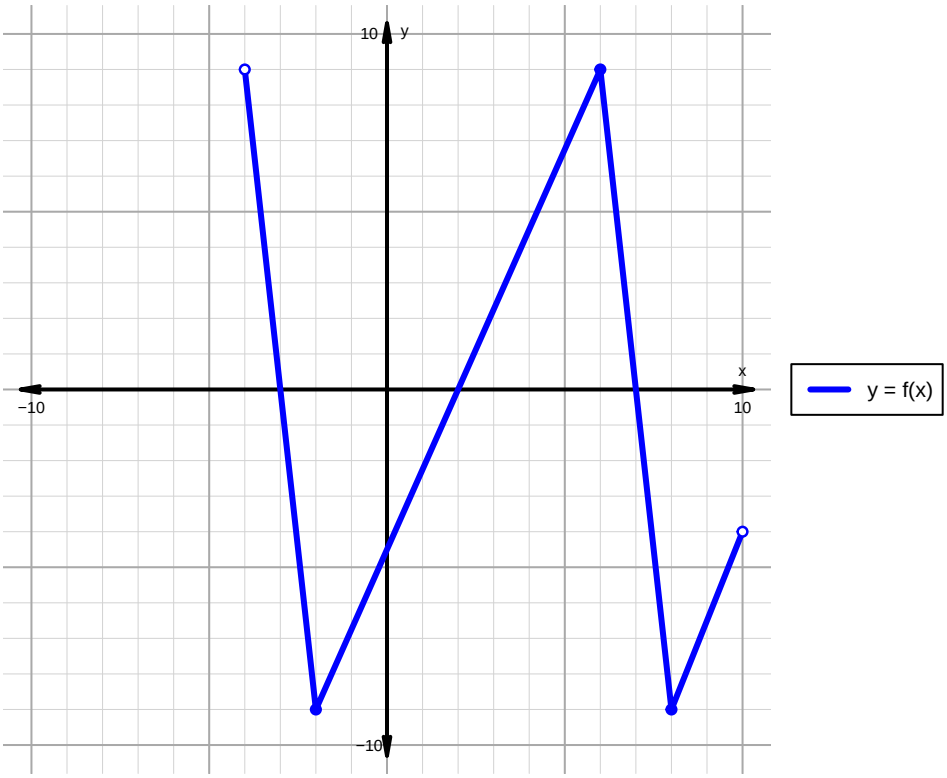
Name: Date:

Intervals, Transformations, and Slope Solution (version 91)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4,-3)\cup(2,7)$
Negative	$(-3,2)\cup(7,10)$
Increasing	$(-2,6)\cup(8,10)$
Decreasing	$(-4,-2)\cup(6,8)$
Domain	$(-4,10)$
Range	$(-9,9)$

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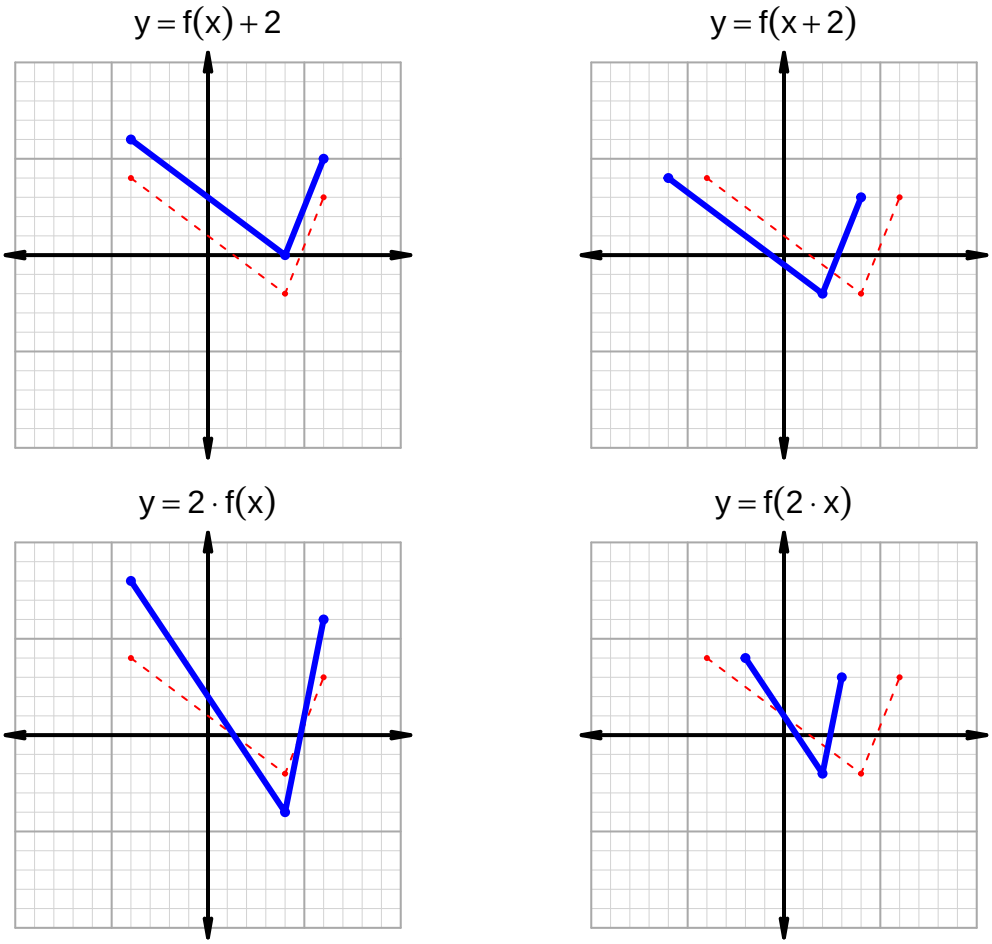
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 83$ and $x_2 = 99$. Express your answer as a reduced fraction.

x	$g(x)$
39	99
57	83
83	39
99	57

$\frac{g(99)-g(83)}{99-83} = \frac{57-39}{99-83} = \frac{18}{16}$

The greatest common factor of 18 and 16 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{9}{8}$$